

HOUSEHOLD AND NATIONAL FOOD SECURITY IN SOUTHERN AFRICA



Edited by

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FOREWORD

In 1985 the University of Zimbabwe and Michigan State University initiated a Food Security Research Network for Southern Africa. The objectives of the network are to conduct research that informs policymakers about food security issues and to help strengthen the regional capacity for food policy analysis. The underlying premise of the network is that building excellence in research capacity for national policy analysis comes through experience. In practice, this requires a long-term commitment to analytical capacity building, consistency in funding, and constant interaction between researchers and policymakers.

The network has sponsored four annual conferences for network researchers, policymakers, SADCC officials, and representative of international and donor agencies. The aim of the conference is to share research findings, identify new research themes, and provide an opportunity for policy dialogue between regional researchers, policymakers, and government officials.

The 1988 conference brought together 110 participants who deliberated on 28 papers. In the Official Opening, Vice-Chancellor W.J. Kamba of the University of Zimbabwe highlighted the importance of including health related-issues as a component of food security; and Zimbabwe's Senior Minister of Finance, Economic Planning, and Development B.T.G. Chidzero outlined policy reform priorities for Southern Africa. Subsequent sessions focused on *SADCC's Food Security Programme, the Impact of Market Reform on Food Security, Food Security Policy Options, New Technology to Improve Food Security, Family Food Security Options in Low-Rainfall Areas, Expanding Agricultural Trade in the SADCC Region, Nutrition and Food Security, the Contribution of Small-Scale Rural Enterprises to Employment Generation and Food Security, and the Impact of Irrigation on Food Security.*

A highlight of the 1988 conference was the participation of five nutritionists from Zambia, Zimbabwe, Sweden, and the United States. The presence of the nutritionists stimulated formal and informal discussions on the food access side of the food security equation and drew attention to the need to initiate more research in this area.

A second highlight of the 1988 conference was the attention given to reducing barriers to expanded intraregional trade in the SADCC region. Results presented suggest that there appear to be substantial price and nonprice barriers to expanded trade. Nevertheless, there exist significant opportunities for expanding intraregional trade that can be realized through appropriate government initiatives.

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AGRICULTURAL POLICY AND ITS IMPACT ON FOOD SECURITY: THE ZAMBIAN CASE

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INTRODUCTION

The agricultural policy objectives of the Zambian Government, as stated in the *Third National Development Plan* are; to achieve a satisfactory level of food self-sufficiency; increase export crop production to broaden the export base of the economy; and, to promote the economic development of the rural areas. Through the various national development plans initiated since independence in 1964, the government placed increasing emphasis on agriculture in an effort to "minimize the inherited imbalance between the urban and rural sectors and reduce the countries dependence on copper exports" (Zambia Government 1979, p. 139).

Government has used several major policy instruments to achieve the above mentioned policy objectives. This paper analyzes the impact of four of these policy instruments on food security over the past five years, namely: price controls, crop marketing policies and practices, consumer and producer subsidies, and foreign exchange controls.

HISTORICAL SETTING

In the first decade after independence, Zambia's copper-based economy was very strong. When copper prices started to fall in the mid-1970s, Zambia's economy deteriorated rapidly. Zambia's external debt rose with no hope of ever improving the situation by relying on traditional copper earnings. Hence, government decided to embark on the *New Economic Recovery Programme*, with the support of the World Bank, the International Monetary Fund, and a number of the major bilateral donors.

To qualify for assistance from these donors, Zambia agreed to carry out major economic reforms. In the agricultural sector, this included the liberalization of agricultural marketing, withdrawal of food subsidies, and devaluation of the currency. This paper analyzes these changes and the effects they have had on the food security situation in the country.

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PRICE POLICIES AND SUBSIDIES

The **Zambian government** has used price regulation as a major instrument to control not only food prices, but also prices of manufactured goods. Government has regulated food prices since independence in order to make food available to the majority of the people in the country. This measure has created the need for many other regulations.

Input price controls

In Zambia, retail input prices have reflected government's desire to stimulate food production without unduly increasing the costs of food to urban consumers. Input prices, especially for fertilizer, have been controlled and subsidized (Table 1). These subsidies have encouraged farmers to use fertilizers, especially for maize production. Nitrogenous fertilizer use increased by 25% from 1972 to 1983. Total fertilizer consumption increased by 58% from 1976 to 1983 (Ginder, 1983). Since 1986, the fertilizer subsidy has been reduced drastically, resulting in the nominal price of fertilizers more than doubling.

The increased use of fertilizer on maize resulted from more small-scale farmers shifting away from other crops. Through both research and extension, the

Table 1. Fertilizer subsidy to farmers and price of fertilizers, Zambia, 1972-87.

Year	Fertilizer subsidy (Kwacha/mt)	Price of compound D (Kwacha/50 kg)	Price of urea (Kwacha/50 kg)
1972	na	2.75	2.80
1973	na	3.50	3.55
1974	na	4.00	0.05
1975	na	4.00	0.05
1976	158	6.55	0.75
1977	106	6.55	0.75
1978	153	6.55	0.75
1979	91	8.55	0.75
1980	210	11.60	1.65
1981	230	9.60	0.65
1982	227	11.75	0.95
1983	166	14.95	4.95
1984	na	24.10	4.10
1985	na	26.75	6.75
1986	na	80.00	3.00
1987	na	80.00	3.00

na indicates data not available

Source: NFNC and IFPRI (1985)

government promoted hybrid maize. Although hybrid maize requires more fertilizer than local varieties, it is more difficult to store. As a result, family food insecurity may have increased.

Input price control has had several effects on Zambian agriculture. First, it has had the positive effect of helping to increase maize production, except during drought periods. Small-scale semi-commercial farmers increased their share of marketed maize from about 20% at independence to about 60% in recent years. The fertilizer subsidy, together with other policy measures, has encouraged farmers to produce more maize in almost every part of the country.

The second effect of input price controls has been that the input subsidy mostly benefited the large-scale commercial farmers. Therefore, the subsidy was mis-directed.

Third, the subsidy bill for inputs increased to the point that the government had to rethink its whole policy. The government also faced the lack of foreign exchange. Following its decision to discontinue food subsidies, a decision encouraged and in the main inspired by most of the large donors, fertilizer subsidies were substantially reduced, resulting in higher fertilizer prices as shown in Table 1. However, the removal of the subsidies and the consequent sharp rise in fertilizer costs do not appear to have reduced agricultural productivity. In fact, production of maize in particular has increased rather than decreased.

Because of the government promotion of maize, more and more farmers throughout the country began to adopt maize as their cash and food crop, changing the regional pattern of production. Provinces like the Eastern and Northern Provinces were/are becoming much more important as maize producing areas than ever before. Clearly, factors in addition to input price controls influenced this development.

Output price controls

The government has tried to control producer prices of food crops for several reasons. First, uncontrolled producer prices would result in higher consumer prices and defeat the government's policy of providing inexpensive food. If consumer subsidies were to be provided in such a case, the explicit subsidy levels would be far larger than if the state controlled the price and marketed the staple commodity, maize.

Second, government has controlled the output price to prevent a few commercial farmers, or a strong trading community, from gaining control of the potentially profitable maize market. Thus, government has controlled the price to encourage smallholder maize production.

Third, to encourage commercial farmers to shift from maize to export crops, government has increased the producer prices of many agricultural commodities (Table 2).

Furthermore, government has introduced what are considered attractive official prices for millet, sorghum, and cassava in an effort to develop rural markets in these crops. From 1980 to 1988 the nominal producer price of maize increased by more than 500%. Other crop prices increased within approximately the same range.

Table 2. Agricultural producer prices (Kwacha/90kg bag), Zambia, 1979 to 1988.

Year	Maize	Sorghum	Millet	Wheat	Soyabean
1979	9.20	6.00	6.00	20.00	25.00
1980	11.70	6.00	6.00	20.00	32.00
1981	13.50	9.00	6.00	26.00	36.30
1982	16.00	9.00	6.00	32.00	42.00
1983	18.30	16.00	29.00	35.75	45.30
1984	24.50	18.65	29.50	42.50	52.50
1985	28.32	26.90	38.10	45.20	60.90
1986	55.00	52.75	56.25	84.40	112.10
1987	78.00	74.00	74.00	111.00	148.00
1988	80.00	76.00	60.00	190.00	217.50

Wheat prices were also increased to promote import substitution.

The price of maize remains controlled to the present, whereas for other crops the government prices are floor prices. For example, the floor price for soyabeans was K217 per bag, but last season farmers could get as much as K240 per bag from private and parastatal buyers. Soyabeans are rapidly becoming an important cash crop for many small-scale farmers in preference to maize. This may pose a problem of food security for this category of farmers.

The current pricing system is intended to promote both cash and food crops throughout the whole country. Farmers are left with a difficult choice on growing cash crops and purchasing food on the market, or growing food crops and selling the surplus. The response appears to be the same throughout the country--farmers are opting to grow cash crops. Maize is also becoming more as a cash crop, particularly for small-scale farmers. While maize is still sold through the cooperative movement and the National Agricultural Marketing Board (NAMBOARD), other crops and livestock are freely traded in the open market.

Increased agricultural production seems to be directly related to rather large increases in producer prices. However, in the final analysis, an increase in producer prices, or even decontrol of producer prices, does not automatically lead to an increase in agricultural production.

Pan-territorial and pan-seasonal pricing

The uniform pricing system has contributed to the low productivity of the agricultural sector, particularly among traditional farm households. For example, farmers in regions which do not have a comparative advantage in maize growing have continued to grow maize with little success.

Much of the increase in maize production has been through an increase in the area planted. Labour and other resources have shifted from traditional crops such as sorghum, millet, and cassava which are less vulnerable to weather variability. Pan-seasonal pricing has induced farmers to sell more maize to the official marketing

channels and store less on the farm, as shown by a recent study in the Eastern Province (IFPRI and NFNC, 1985).

With less maize being stored on-farms and with distant places producing more for the urban market, government's cost of handling maize has increased. For example, in the 1988 budget speech it was disclosed that it cost the government K49 to handle a 90 kg bag of maize before it reached the millers. A major outcome of this policy has been that the farmers who depended on sorghum, cassava, millet, and local maize varieties for food switched to hybrid maize as a cash crop--making them more vulnerable to transitory food insecurity. High reliance on cash incomes for food have been linked to lower nutritional levels among households following this practice (IFPRI and NFNC, 1985).

The maize pricing system has also increased the government's cost to provide inexpensive food to all the people with access to subsidized maize (mealie meal). Consumers, especially in urban areas, have been purchasing maize meal at less than half the real value of the processed commodity (IAS and ERG, 1988). The government has borne the difference, thus contributing to a the budget deficit.

Consumer pricing and subsidies

For crops such as rice, sorghum, millet, and cassava, rural market prices reflect both regional and seasonal differences *vis-a-vis* their major production sites (NFNC and IFPRI, 1985). The markets for these crops are rudimentary and involve very small quantities. There is also no subsidy offered on processed products made from these crops. However, for maize the rural market is almost nonexistent. There is little rural storage for off-season sales or for own consumption. Especially in areas where subsidized maize meal is readily available, farmers sell their crop as soon as the marketing season opens and start purchasing maize flour from the market.

In normal rainfall years, there has been an increase in the production of maize throughout the country. The marketed figures are approaching the production figures because producers retain little maize for consumption, as noted above. This also has resulted in increased demand for the industrially-milled maize products, which is not surprising considering the large subsidy offered on the final product.

The *Analysis of the 1988 Budget of Zambia* (IAS and ERG, 1988) estimated that the total subsidy on maize (handling, storage, and milling represented K155.55 per annum per person. A subsidy of K79.23 per 90 kg bag of maize or K77.79 per month per average family was offered to the consumers. For an urban family the subsidy was between K100 and K113 per month. The report added that subsidies on consumer products do not generally help the rural population which either produces its own food or has little access to the subsidized and often scarce commodity. Also, because the food subsidies are generally aimed at the urban population, they further encourage rural-to-urban migration.

In the past two years, Zambia has actually experienced a drastic increase in demand for subsidized mealie meal in rural areas throughout the country. This problem was more prominent during the late 1987 and early 1988 when severe shortages of mealie meal were experienced throughout the country. Although the mealie meal problem was worsened by the draught, the changed crop production

patterns have been equally important. Traditional cassava, millet, and sorghum-eating areas have shifted to consuming more maize meal and have reduced their production of other food crops.

In December 1986 mealie meal prices were doubled, but as a result of rioting in the Copperbelt, the government rescinded the price increase. The maize flour subsidy has absorbed a considerable portion of its revenues. In 1986 18.8 % of the government expenditures were spent on the subsidies (Table 3). In the 1988 budget the amount earmarked for subsidies equalled 42% of the total deficit. Maize subsidies alone (handling and milling) are expected to reach K948.3 million in 1988. Although the maize subsidy is designed to help the rural and urban poor, it also benefits net-food buyers and high income earners. Therefore, the government is now trying to reduce the maize subsidy by targeting it to the needy.

The maize subsidy has significantly contributed to the deficit, which in turn has fueled inflation--making manufactured goods and inputs extremely expensive. The terms of trade between the rural and the urban areas have weighed heavily against the former. Inflation has also seriously affected the low income, relative to the high income, group.

Consumer price statistics indicate that a basket of goods that could be purchased for K100.00 in 1975 would cost low-income consumers K788.40 and high income consumers K787.20 in 1986 (CSO, 1987). For food items (reported together with beverages and tobacco), the 1987 price index was 807.7 for the low-income group and 815.5 for the high-income group. Since the low-income group spends over 70% of their income on food, despite the high maize meal subsidy, increase in the price of the staple food (mealie meal) would therefore threaten the food security of the low income group. This is why the government is very cautious about removing the maize subsidy.

Current reports indicate that the incidence of malnutrition is increasing and that it is greater in rural areas (IFPRI and NFNC, 1985). This is mainly because food

Table 3. The cost of maize subsidies, Zambia, 1982 to 1987.

Year	GRZ own revenues	Subsidies	
	Million Kwacha	Million Kwacha	Percent
1982	841.0	154.0	18.3
1983	1,016.1	82.2	8.1
1984	1,092.1	90.5	8.3
1985	1,546.7	188.4	12.2
1986	3,035.6	569.9	18.8
1987	4,279.8	676.0	15.8

Source: Ministry of Finance (various years).

availability, especially during the drought, is extremely low due to extensive food sales through the official marketing channels. The combined impact of price and subsidy policy instruments is to induce smallholders to shift their resources away from traditional food crops to cash crop production, including maize. Maize is increasingly grown as a cash crop and the income obtained from it is used to purchase industrially-milled mealie meal. Thus, the demand for industrial-milled mealie meal has increased not only in urban areas, but also in rural areas. In addition, population growth increases the demand for maize throughout the whole country.

As a consequence of the pricing policies noted above, both net food buyers and net food sellers benefit from the subsidized staple food item, mealie meal.

INSTITUTIONAL ARRANGEMENTS AND THEIR EFFECTIVENESS

To achieve the goal of providing inexpensive food to the people through subsidies, it was necessary to create new institutions for this purpose. Since government did not consider small grains to be an important food crop until the 1980s, no institution was charged with the responsibility to purchase these crops.

NAMBOARD

The most important and well-known Zambian marketing board is the National Agricultural Marketing Board (NAMBOARD). Since the government sought to control both input and output prices, it was necessary to arrest private traders who would not observe fixed prices.

Through NAMBOARD, the government provided subsidized inputs to farmers, purchased maize at controlled prices, and sold to private millers who could then sell their products at the controlled prices. For example, before May 1987 NAMBOARD purchased a 90 kg bag of maize at K55.00 and sold it at K35.00 to millers. The difference of K20 was absorbed by the government as an explicit subsidy.³

The milling industry

As a result of the food riots in December of 1986, the government declared the milling industry a strategic industry. Events preceding the riots are important to understand the incident. To reduce the subsidy bill and still provide assistance to the most needy citizens, the government decided to subsidize only roller meal, the type of mealie meal believed to be consumed by the majority of the low income earners. (The other type, breakfast meal, was not to be subsidized). Further, just before the

³Government control of maize marketing is not a post-independence phenomenon; rather, it goes back to the 1940s when the then colonial government decided to provide inexpensive food to the miners.

proposed decontrol of the price of breakfast meal, the government intended to transfer the point of the roller meal subsidy from NAMBOARD to the millers in order to further reduce the subsidy bill.

During the transition in the locus and method of subsidy, shortages of mealie meal occurred. The shortages developed because the mechanism for millers to recover the subsidy had not been worked out beforehand, and millers feared they would not be able to recover the costs for producing and selling subsidized roller meal. Consequently, most of the millers produced the price-decontrolled breakfast meal, which was being sold at K78 per 50 kg bag compared to roller meal which remained at K28.70 per 50 kg bag.

To urban low income earners with monthly wages below K300 per month (CSO 1987), the cost of the breakfast meal alone would have taken over 90% of their salary, since roller meal was not available⁴. Thus, the volatile urban population was left with very little to do but to protest. Government blamed the millers, mainly private firms for the shortages, and subsequently took over the industry.

Taking over the milling industry enabled government to more easily channel the staple food subsidy to the low-income group. Currently, cooperative unions, district councils, and parastatals run the maize meal industry. A few small private mill owners still operate in rural areas, but licenses are required if they are to purchase any maize from government stocks. Most of the small millers have problems in obtaining these licenses and therefore function as service millers to people who bring their own maize for milling.

The subsidy is paid to the millers when they provide receipts of their sales to retailers or consumers. The change on the point of subsidy appears to be operating well, but it has not reduced the subsidy bill. As previously noted, it cost as much as K49 per 90 kg bag for handling, even before the maize was milled. Additional costs were incurred for milling, distribution, storage, and retail.

During late 1987 (November and December) and early 1988 (January, February, and March), Zambians faced a serious shortage of both breakfast and roller meal. The main cause of the shortage is yet to be determined. The milling industry insisted that their production was normal and that there was adequate capacity to satisfy the national demand. Also, the government maintained that there was no maize shortage as additional supplies had been imported from Zimbabwe and Kenya.

Several reasons have been proposed to explain the problem that besieged the whole country. One view argued that demand among the rural food producers drastically increased because the price differentials between producer and consumer products make it rational for farmers to sell their maize and purchase subsidized maize meal. Furthermore, it does not pay to store maize on the farm, especially since hybrid maize does not store well under present on-farm storage technology. Whatever the reasons for the maize meal shortages in 1987 and early 1988, the fact remains that Zambia is highly susceptible to transitory food insecurity.

⁴Even among the low-income group, a large percentage actually consumed breakfast meal, not roller meal.

Unfortunately, food producers are contributing to the size of this group under threat. Institutions charged with the responsibility to ensure food security to the nation cannot do their work under unfavorable conditions and without the necessary inputs.

On the other hand, institutions charged with handling nonfood crops and beef have performed relatively well. The tobacco industry increased its exports. The beef industry has also increased its exports through the parastatal (CSBZ) and private initiatives. Throughout the country, prices of meat and meat products have increased to well over 300% from 1982 to 1987 due to the deregulation of the prices.

The operations of NAMBOARD and cooperatives have contributed to the food insecurity of food producers. The fact that the maize marketing period lasts for only a short period (May to June/July) forces farmers to sell their maize as soon as the marketing season begins. In 1988, government provided an incentive for farmers who sold their dry maize in April—an additional K25 per 90 kg bag above the producer price of K80 per bag to assist farmers to cover the cost of drying. By providing this incentive, the government hoped to then acquire maize stocks for milling, as they had almost run out. It is hoped that in the future when the stocks are high, the government can provide a similar incentive for people to store maize on farm and receive a higher price later. Longer on-farm retentions would reduce national grain losses and make maize available for households needs.

Impact on the private sector

The creation of government market institutions was partially designed to prevent private traders from taking part in the marketing of essential crops. For example, the government did not want a small group of traders to dominate the market in such essential food products as maize for fear of exploiting the farmers. The result is that there is little private trading in rural areas, except for small quantities of traditional crops. Government retail shops such as the Zambia Consumer and Buying Corporation (ZCBC), Mwaiseni, and National Import and Export Corporation (NIEC) stores distribute mealie meal in rural areas.

Private participation is present in the processing sector to a small extent. Hammer-mill owners in Zambia do not have their own stocks of maize, but operate only as service millers. Small grains are milled at the household level. The Small Industries Development Organization, (SIDO), is hoping to introduce dehullers in rural areas to encourage greater utilization of small grains and, hence, assist in achieving food security.

The current arrangements in the maize market are such that operating a mill in a rural area on a private basis is unprofitable, unless the miller can claim subsidies from the government. The presence of mealie meal in state shops in most of the rural areas (the coverage may be low), the lack of spare parts, and the pricing conditions have discouraged small-processing businesses. Large maize-milling operations have been prohibited in Zambia since December 1986. Only cooperative unions, district councils, and parastatal companies are allowed in the industry. As a result, employment opportunities in the rural areas from this sector have been depressed. Depending on mealie meal from large mills has also required rural people to travel long distances and has sometimes caused maize meal shortages.

This is in addition to the costs incurred in moving maize from production areas to the mills and maize meal back to the consumers.

Marketing policy options

The motive for government (both the colonial government and the GRZ) to intervene in the marketing of maize, the main staple food of urban Zambia, can easily be appreciated. Nevertheless, the problems and bottlenecks in the whole agricultural sector caused by this intervention need to be addressed. First, the intervention has been at a very high cost to government because of the heavy subsidies it has been forced to make. In 1986 the subsidy level rose to 69% of the total budget allocated to the Ministry of Agriculture and Water Development.

Obviously this state of affairs has grave consequences for food production as it brings to a standstill most of the other essential agricultural services that are vital to increasing food production. In any case, the Zambian government does not have the money to sink into the bottomless pit of subsidies. When it is forced to stop the subsidies because it does not have the funds, then other social and indeed political problems will arise.

On the other hand, to suddenly abandon the subsidies is equally suicidal. As has been pointed out earlier, a majority of the people spend as much as 70% of their incomes on the maize flour which is heavily subsidized. Without the subsidy, the commodity would be completely out of their reach.

Another aspect of having official boards solely in charge of marketing the main staple is the question of the ability of those boards to effectively carry out their mandate. In the first place, neither NAMBOARD nor the provincial cooperative unions have adequate transport to haul the produce to safety before the onset of the rains. Consequently, substantial amounts of the badly needed crop goes to waste.

In the second place, these official agencies do not generally have sufficient money to pay farmers for their produce. This results in late payments, which in turn discourages farmers from growing the staple. Instead, they grow other cash crops whose marketing is more efficiently managed, such as cotton. Cotton growers receive all the necessary inputs, including extension advice, on time and are paid for their produce soon after they deliver it to the marketing board.

It is the strong opinion of the authors of this paper that all the fuss, and more importantly, the large crop losses that occur during the harvest and marketing season could be avoided if maize storage was further decentralized. More all-weather rural depots could be constructed, which would store the produce until it is required elsewhere in the country later in the year. In addition, farmers would keep more of their maize and store it on-farm if there were incentives, such as being able to sell it at a higher price later in the year when there was an increased demand.

MONETARY AND FISCAL POLICIES AND FOOD SECURITY

Monetary and fiscal policies have a bearing on the food security situation in so far as they affect the whole economy. Zambia has experienced changes in monetary and

fiscal policies since the mid-1970s, the turning point when world market trends were no longer favorable to Zambia. Prior to this period, even though the agricultural sector could not provide the needed cheap food for the urban population, food imports were easily financed through copper revenues. The mineral revenues also supported a relatively good purchasing power for the Kwacha. After 1973-74 when copper prices fell and oil bills increased drastically, Zambia found itself without foreign exchange to easily import food and other goods and services. Clark and Keen (1988) reported that the terms of trade index (which measures trends in export prices compared with trends in import prices) fell from 100 in the early 1970s to just 24 in 1982. This meant that Zambia had to export more than four times as much in order to import the same value of goods.

Zambia has introduced several monetary and fiscal policies to ensure that food which can easily be grown locally is not imported.

Introduction of the foreign exchange auction

After having had a fixed exchange rate throughout the 1970s and early 1980s, the government realized that the Kwacha was overvalued. Agriculture is one sector that employed imported capital-intensive production methods in the midst of abundant labour. The commercial farmers who could get foreign exchange from the Bank of Zambia (the Central Bank allocates the scarce foreign exchange) imported machinery and irrigation equipment, particularly to produce wheat and soyabean. The demand for wheat products has increased in the urban areas, despite the fact that Zambia cannot produce even one-third of its wheat requirements. The increased wheat demand has been due to both the exchange rate and foreign food aid which made wheat products cheap.

In October 1985 the Government, with the help and urging of the IMF devalued the Kwacha to the US dollar exchange rate through the use of a foreign exchange auctioning system. The foreign exchange auction was to be supported by other market liberalization measures such as reducing the budget deficit, decontrolling interest rates, liberalizing imports, and reducing the money supply. By April 1987, the Kwacha declined in value from K2.23 to US\$1.00 in October 1985 to K21.01 to US\$1.00.

Impact of the auction

The major effect on these policies increased the cost of imported goods, which pulled up the prices of all other commodities. Inflation started running around 60%. Workers sought higher wages in order to restore their purchasing power. Firms that were not successful in bidding for foreign exchange, but were highly dependent on imported materials for their production, started laying off workers. Therefore, unemployment was not arrested by the auctioning system.

Agriculture was affected in several ways by the auction. Some commercial farmers started utilizing more labour-intensive production technologies. Use of oxen power increased significantly as the prices of imported machinery, fuel, and spares increased. The effect on rural employment is not clearly known as the period of auction was too short. Inflation obviously changed the terms of trade between rural

and urban areas. Prices of agricultural products such as maize were still being controlled, but urban manufactured goods were not.

The agricultural sector did not benefit much from the auctioning system which was ended on the 1st of May 1987, with the currency fixed at K8.00 to the US\$1.00. Exports of a few crops and livestock products did increase. Generally, however, most of the agricultural producers were outbid and could not adjust quickly enough to employ more local resources. This occurred despite the fact that agriculture was given a separate window. Since interest rates were also decontrolled, farmers found it extremely difficult to borrow money from the banks. Small-scale farmers, who only needed money to purchase inputs within the country, were badly affected by interest rates which increased as much as 30% on a seasonal loan. Agriculture, and consequently food security for the rural people, was negatively affected by the auctioning system. However, the government has tried to cushion the effects of inflation on the urban poor by continuing to subsidise maize flour. The money supply was never contained and grew by as much as 93% between 1986 and 1987 (Budget speech, 1988). The increased money supply and the continued government budget deficits affected the food security situation of the people by fueling inflation.

CONCLUSION

With the decline of the mining industry, Zambia is currently placing increased emphasis on the agricultural sector, particularly on maize production. Indeed, food security in Zambia is almost synonymous with maize self-sufficiency. Therefore, it is not surprising that key agricultural policies that government has recently initiated are related to maize production and marketing. By and large, Zambia has shown that she is capable of producing sufficient maize, given good rains⁵. What she now needs to do is to consolidate this capacity, as well as review her marketing and storage capacities. The various irrigation schemes, both small- and large-scale, need to be expanded in order to supplement rainfed agriculture, especially in bad years.

Like the rest of the economy, there is also a need to diversify the agricultural sector. In recent years, government has encouraged farmers to grow crops other than maize. This is particularly true of the export crops for which the farmers, mainly commercial farmers are given good incentives.

⁵With a current demand for marketed maize of 8.5 million bags, the country produced enough to meet domestic requirements in 1976, 1977, 1981, 1986, and 1988. The excess demand is met either by commercial imports or aid. Zambia has been importing and receiving food aid in the form of maize for a long time, ranging from a high of 288,000 mt in 1980 to a low of 68,000 mt in 1982 (MAWD and Mills Associates, Ltd., 1986). This year the country has imported maize from Zimbabwe and Kenya to make up the shortfall, with about 162,500 mt projected to be imported from Zimbabwe (*Times of Zambia*, April 14, 1988). Part of this consignment (62,500 mt) is from the World Food Programme as food assistance.

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